

Amendments to the Claims:

The following claims will replace all prior versions of the claims in this application (in the unlikely event that no claims follow herein, the previously pending claims will remain):

1. (Currently Amended) A microcellular polyurethane foam obtained by reacting ~~from a reaction consisting essentially of:~~

(i) an isocyanate-terminated prepolymer obtained by reacting a polyisocyanate with a polyester formed from a dimer fatty acid and/or dimer fatty diol;

(ii) a hydroxy compound consisting of a polyester formed from a dimer fatty acid and/or dimer fatty diol; and

(iii) a chain extender composition;

wherein said dimer fatty acids and/or dimer fatty diols in each said polyester have a trimer content between 5 and 15 weight percent, and wherein said foam retains at least 40% of its initial tensile strength after being subjected to hydrolysis for 2 weeks.

2. (Cancelled)

3. (Previously Presented) A foam according to claim 1 wherein each said polyester is additionally formed from a non-dimer dicarboxylic acid.

4. (Previously Presented) A foam according to claim 3 wherein the non-dimer dicarboxylic acid comprises adipic acid.

5. (Previously Presented) A foam according to claim 1 wherein the chain extender composition is a diol having an aliphatic linear carbon chain comprising in the range from 1 to 10, more preferably 3 to 5 carbon atoms.

6. (Previously Presented) A foam according to claim 1 wherein the foam retains at least 60% of its initial tensile strength and/or initial elongation at break properties, after being subjected to hydrolysis for 2 weeks.

7. (Previously Presented) A foam according to claim 1 wherein the foam retains at least 20% of its initial tensile strength and/or retains at least 30% of its initial elongation at break properties, after being subjected to hydrolysis for 4 weeks.

8. (Previously Presented) A foam according to claim 1 wherein the foam has a density in the range from 0.25 to 0.7 gcm⁻³, and/or a hardness in the range from 20 to 60 Shore A, and/or a tensile strength in the range from 35 to 80 kgcm⁻², and/or an elongation at break of greater than 250%, and/or a tear strength in the range from 2 to 8 kNm⁻¹, and/or an impact resilience in the range from 10 to 35%.

9. (Currently Amended) An isocyanate-terminated prepolymer which is the product of a reaction comprising ~~consisting essentially of~~ a polyisocyanate and a hydroxy compound consisting of a polyester which is the reaction product of dimer fatty acid, adipic acid and diethylene glycol.

10. (Currently Amended) A shoe sole comprising a microcellular polyurethane foam obtained by reacting ~~from a reaction consisting essentially of~~:

- (i) an isocyanate-terminated prepolymer obtained by reacting a polyisocyanate with a polyester formed from a dimer fatty acid and/or dimer fatty diol;
- (ii) a hydroxy compound consisting of a polyester formed from a dimer fatty acid and/or dimer fatty diol; and
- (iii) a chain extender composition;

wherein said foam retains at least 40% of its initial tensile strength after being subjected to hydrolysis for 2 weeks.

11. (Currently Amended) A process for forming a microcellular polyurethane foam wherein said foam retains at least 40% of its initial tensile strength after being subjected to hydrolysis for 2 weeks comprising ~~consisting essentially of~~ reacting:

- (i) an isocyanate-terminated prepolymer obtained by reacting a polyisocyanate with a polyester formed from a dimer fatty acid and/or dimer fatty diol;
- (ii) a hydroxy compound consisting of a polyester formed from a dimer fatty acid and/or dimer fatty diol; and
- (iii) a chain extender composition.

12. (Previously Presented) The process according to claim 11 wherein each said polyester is additionally formed from a non-dimer dicarboxylic acid.
13. (Previously Presented) The process according to claim 12 wherein the non-dimer dicarboxylic acid comprises adipic acid.
14. (Previously Presented) The process according to claim 11 wherein the chain extender composition is a diol having an aliphatic linear carbon chain comprising in the range from 1 to 10, more preferably 3 to 5 carbon atoms.
15. (Previously Presented) The process according to claim 11 wherein the foam retains at least 60%, preferably at least 80%, of its initial tensile strength and/or initial elongation at break properties, after being subjected to hydrolysis for 2 weeks.
16. (Previously Presented) The process according to claim 11 wherein the foam retains at least 20%, preferably at least 30%, of its initial tensile strength and/or retains at least 30%, preferably at least 50% of its initial elongation at break properties, after being subjected to hydrolysis for 4 weeks.
17. (Previously Presented) The process according to claim 11 wherein the foam has a density in the range from 0.25 to 0.7 gcm⁻³, and/or a hardness in the range from 20 to 60 Shore A, and/or a tensile strength in the range from 35 to 80 kgcm⁻², and/or an elongation at break of greater than 250%, and/or a tear strength in the range from 2 to 8 kNm⁻¹, and/or an impact resilience in the range from 10 to 35%.
18. (Previously Presented) A foam according to claim 1 wherein said foam retains at least 60% of its initial tensile strength after being subjected to hydrolysis for 2 weeks.
19. (Previously Presented) A foam according to claim 1 wherein said foam retains at least 80% of its initial tensile strength after being subjected to hydrolysis for 2 weeks.

20. (Previously Presented) A foam according to claim 3 wherein the weight ratio of dimer fatty acids to non-dimer acids is in the range from 30 to 70:30 to 70 of the total dicarboxylic acids.

21. (Previously Presented) A foam according to claim 6 wherein the foam retains at least 80% of its initial tensile strength and/or initial elongation at break properties, after being subjected to hydrolysis for 2 weeks.

22. (Previously Presented) A process according to claim 12 wherein the weight ratio of dimer fatty acids to non-dimer acids is in the range from 30 to 70:30 to 70 of the total dicarboxylic acids.

23. (Currently Amended) A microcellular polyurethane foam obtained by reacting ~~from a reaction consisting essentially of:~~

- (i) an isocyanate-terminated prepolymer obtained by reacting a polyisocyanate with a polyester formed from a dimer fatty acid and/or dimer fatty diol;
- (ii) a hydroxy compound consisting of a polyester formed from a dimer fatty acid and/or dimer fatty diol; and
- (iii) a chain extender composition;

wherein said dimer fatty acids and/or dimer fatty diols in each said polyester have a trimer content between 5 and 15 weight percent.

24. (Previously Presented) A foam according to claim 23 wherein said dimer fatty acids and/or dimer fatty diols in each said polyester have a trimer content between 7 and 13 weight percent.

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Currently Amended) A microcellular polyurethane foam obtained by reacting ~~from a reaction consisting essentially of:~~

- (i) an isocyanate-terminated prepolymer obtained by reacting a polyisocyanate with a polyester formed from a dimer fatty acid and/or dimer fatty diol;
- (ii) a hydroxy compound consisting of a polyester formed from a dimer fatty acid and/or dimer fatty diol; and
- (iii) a chain extender composition comprising a compound having at least 2 active hydrogen groups;

wherein said dimer fatty acids and/or dimer fatty diols in each said polyester have a trimer content between 5 and 15 weight percent.

29. (Previously Presented) A foam according to claim 28 wherein said dimer fatty acids and/or dimer fatty diols in each said polyester have a trimer content between 7 and 13 weight percent.

30. (Previously Presented) A foam according to claim 28 wherein said polyesters are obtained by reacting dimer fatty acid with diethylene glycol.

31. (Previously Presented) A foam according to claim 28 wherein said polyesters are obtained by reacting essentially linear dicarboxylic acids having a carbon chain in the range 2 to 20, dimer fatty acid and diethylene glycol.

32. (Previously Presented) A foam according to claim 28 wherein said polyesters are obtained by reacting essentially adipic acid, dimer fatty acid and diethylene glycol.

33. (Currently Amended) A microcellular polyurethane foam obtained by reacting ~~from a reaction consisting essentially of:~~

- (i) an isocyanate-terminated prepolymer obtained by reacting a polyisocyanate with a polyester formed by reacting essentially adipic acid, dimer fatty acid and diethylene glycol;
- (ii) a hydroxy compound consisting of a polyester formed by reacting essentially adipic acid, dimer fatty acid and diethylene glycol; and

- (iii) a chain extender composition comprising a compound having at least 2 active hydrogen groups;

wherein said dimer fatty acids in each said polyester have a trimer content between 7 and 13 weight percent.

34. (Previously Presented) A foam according to claim 1 wherein the foam retains at least 30% of its initial tensile strength and/or retains at least 50% of its initial elongation at break properties, after being subjected to hydrolysis for 4 weeks.

35. (Previously Presented) A foam according to claim 1 wherein said dimer fatty acids and/or dimer fatty diols in each of said polyester have a trimer content between 7 and 13 weight percent.

36. (Previously Presented) A foam according to claim 1 wherein said dimer fatty acids and/or dimer fatty diols in each of said polyester have a trimer content between 9 and 11 weight percent.

37. (Previously Presented) The microcellular polyurethane foam of claim 1, wherein the chain extender composition contains one or more of blowing agents, urethane promoting catalysts; surfactants; stabilizers; and pigments.

38. (Previously Presented) The shoe sole of claim 10, wherein the chain extender composition contains one or more of blowing agents, urethane promoting catalysts; surfactants; stabilizers; and pigments.

39. (Previously Presented) The process of claim 11, wherein the chain extender composition contains one or more of blowing agents, urethane promoting catalysts; surfactants; stabilizers; and pigments.

40. (Previously Presented) The microcellular polyurethane foam of claim 23, wherein the chain extender composition contains one or more of blowing agents, urethane promoting catalysts; surfactants; stabilizers; and pigments.

41. (Previously Presented) The microcellular polyurethane foam of claim 28, wherein the chain extender composition contains one or more of blowing agents, urethane promoting catalysts; surfactants; stabilizers; and pigments.

42. (Previously Presented) The microcellular polyurethane foam of claim 33, wherein the chain extender composition contains one or more of blowing agents, urethane promoting catalysts; surfactants; stabilizers; and pigments.